

U. S. DEPARTMENT OF COMMERCE

DANIEL C. ROPER, Secretary

BUREAU OF STANDARDS

LYMAN J. BRIGGS, Acting Director

**BUILDERS' TEMPLATE
HARDWARE**

(Second Edition)

COMMERCIAL STANDARD CS9-33

[Issued March 7, 1933]

Effective Date for New Production, January 1, 1933



A RECORDED STANDARD OF THE INDUSTRY

**UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1933**

PROMULGATION STATEMENT

On November 15, 1928, the Advisory Committee on Standardization of Builders' Hardware, in conjunction with the Hollow Metal Manufacturers Association, following several previous joint conferences, adopted a commercial standard for builders' template hardware, which was accepted in writing by the industry and published as Commercial Standard CS9-29.

On July 20, 1932, in accordance with the recommendation of the standing committee, a proposed revision of this commercial standard was circulated to the industry for written acceptance. The industry has since accepted and approved for promulgation by the Department of Commerce through the Bureau of Standards the revised standard as shown herein.

This recommendation was effective for new production on January 1, 1933.

Promulgation recommended.

I. J. Fairchild,
Chief, Division of Trade Standards.

Promulgated.

Lyman J. Briggs,
Acting Director, Bureau of Standards.

Promulgation approved.

Daniel C. Roper,
Secretary of Commerce.

BUILDERS' TEMPLATE HARDWARE

COMMERCIAL STANDARD CS9-33

(Second edition)

GENERAL

1. The following dimensions, clearances, tolerances, screw sizes, and varieties of template hinges and cylinder-lock parts are recommended as standard for application to hollow metal doors.

TEMPLATE LOCKS

2. One and two bolt cylinder locks of following classification applicable to hollow metal doors shall be provided with standard fronts and strikes conforming to detail dimensions as shown below and in Figure 1.

3. Such locks are as follows:

Vertical dimension of case, 6 inches maximum; 5 inches minimum.

Horizontal dimension of case, $4\frac{1}{4}$ inches maximum; $3\frac{3}{4}$ inches minimum.

Thickness of case, 1 inch maximum; $\frac{3}{4}$ inch minimum.

Backset, $2\frac{3}{4}$ inches.

Bevel of front, $\frac{1}{8}$ inch in 2 inches.

Radius of rounded front, 4 inches. (For locks with rabbeted front, the inner radius shall be $3\frac{1}{2}$ inches and shall center on the same point as the 4-inch radius for the outer edge.)

4. Doors receiving such locks shall be reinforced to prevent more than $\frac{1}{8}$ -inch lateral movement of lock case at rear edge. When boxes for strikes are required they will be furnished by the hardware manufacturer.

NOTE.—Details of lock, lock front, and strike given herein are arranged to suit mortise details given in Simplified Practice Recommendation R82-28, Hollow Metal Single-Acting Swing Doors, Frames, and Trim.

TEMPLATE HINGES

5. *Full mortise*.—All full-mortise template butt hinges shall be of the exact size as shown (both leaves), with straight edges and square corners. The width of mortise butt hinges is purposely omitted from these standards, and shall be such as to suit the architectural details.

6. *Half surface, full surface, and half mortise*.—All half-surface, full-surface, and half-mortise template butt hinges shall be of the exact size as shown with square corners and straight edges on the mortise leaf. The surface leaves shall have beveled edges.

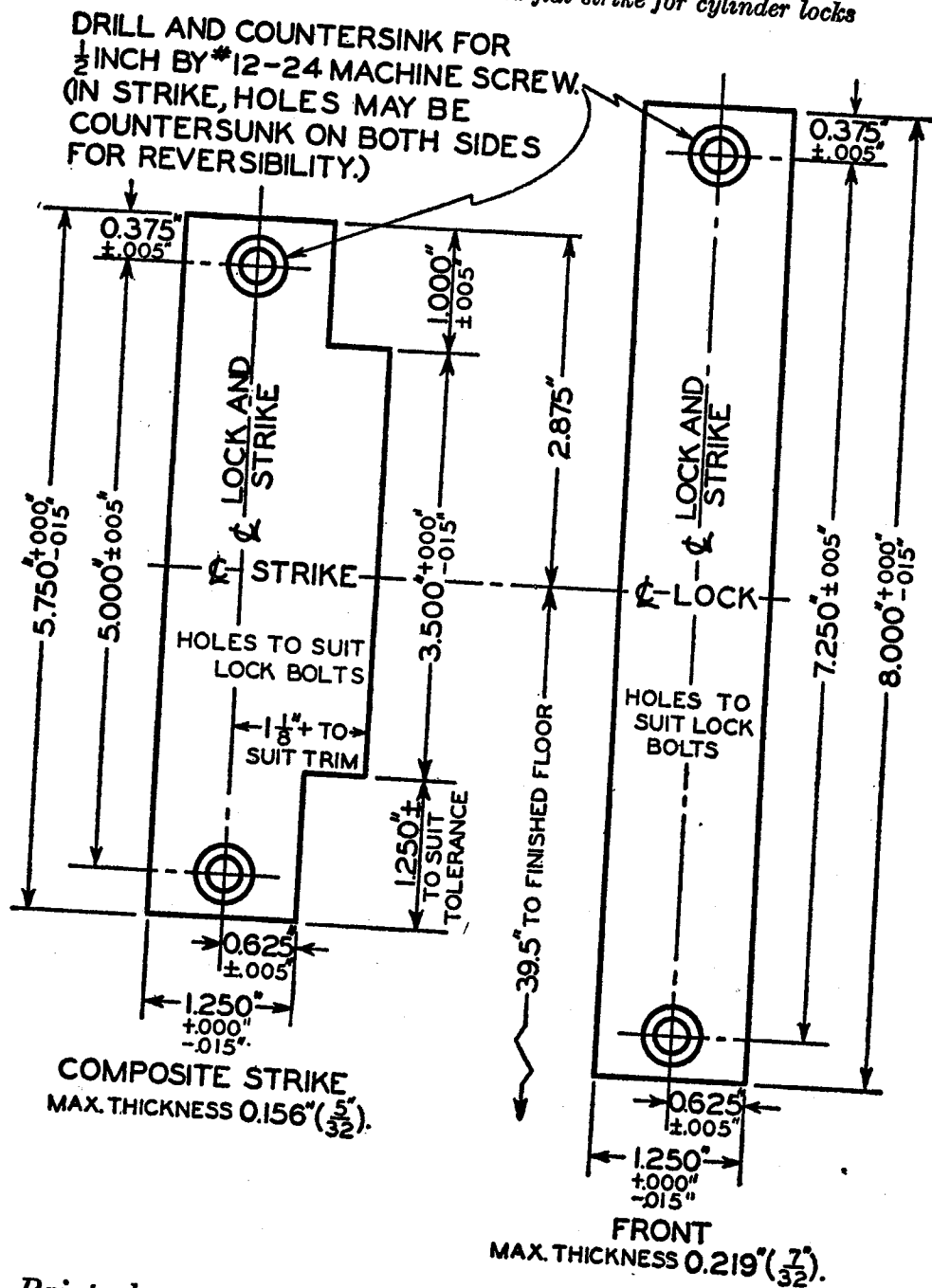
7. *Tolerance on length*.—A tolerance of $\begin{Bmatrix} +0.000 \\ -0.015 \end{Bmatrix}$ inch is allowed on the length of all hinges.

8. *Tolerance on hole spacing*.—A tolerance of ± 0.005 inch is allowed on dimensions for hole spacing.

9. *Tolerance on thickness*.—(a) Cast hinges shall be of uniform thickness without taper, and within $\begin{Bmatrix} +0.005 \\ -0.010 \end{Bmatrix}$ inch of the specified thickness.

(b) A tolerance of ± 0.005 inch is permitted on thickness of wrought hinges.

FIGURE 1.—Template front and flat strike for cylinder locks



10. *Paint clearance minimum.*—The clearance between the inner edges of the leaves and the barrel of the hinge shall be as follows:
- (a) Hinges having gage of metal 0.090 or greater shall have a clearance of 0.090 plus or minus 0.010 inch.
 - (b) Hinges having gage of metal less than 0.090 shall be provided with a clearance of 0.050 plus or minus 0.010 inch.
 - (c) Cabinet hinges for painting shall be provided with a clearance of 0.040 plus or minus 0.005 inch between knuckles and edge of leaf.
11. *Template identification symbol.*—The first letter indicates thickness as A=regular thickness and B=extra heavy. The following numeral indicates template, as 1=regular template, and 2=narrow template. The next two digits indicate vertical height of hinge as

20 = 2-inch, 25 = 2½-inch, 30 = 3-inch, 35 = 3½-inch, etc. The last letter indicates type of hinge as M = full mortise, H = half surface, S = full surface, and HM = half mortise.

Thus, A125M indicates a regular thickness, regular template, in 2½-inch-size, full-mortise butt hinge.

FIGURE 2.—2½ to 3½ inch full-mortise template butt hinges

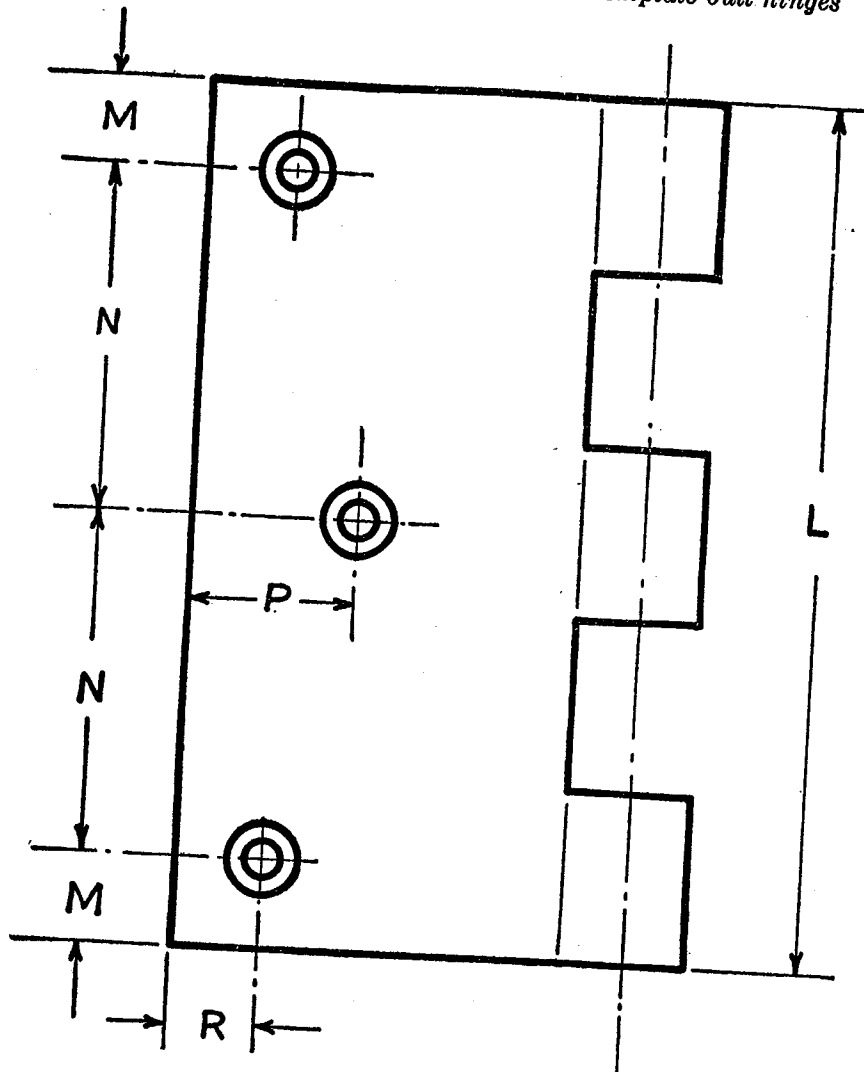


TABLE 1.—2½ to 3½ inch full-mortise template butt hinges

Template identification symbol	Dimensions (inches)						Material of butt hinge	Machine screws			
	L	M	N	P	R	Nominal thickness		Type	Length	Diameter	Threads
A125M.....	2½	0.312	0.938	0.516	0.320	0.089	Wrought bronze or steel.....	F. H.	1½	8	32
A130M.....	3	.312	1.188	.580	.312	.092					
A130M.....	3	.312	1.188	.580	.312	.156	Cast bronze or iron.....	F. H.	1½	10	24
A135M.....	3½	.355	1.395	.687	.360	.123					
A135M.....	3½	.355	1.395	.687	.360	.156	Wrought bronze or steel.....	F. H.	1½	10	24
							Cast bronze or iron.....	F. H.	1½	10	24

FIGURE 3.—4 and 4½ inch full-mortise template butt hinges

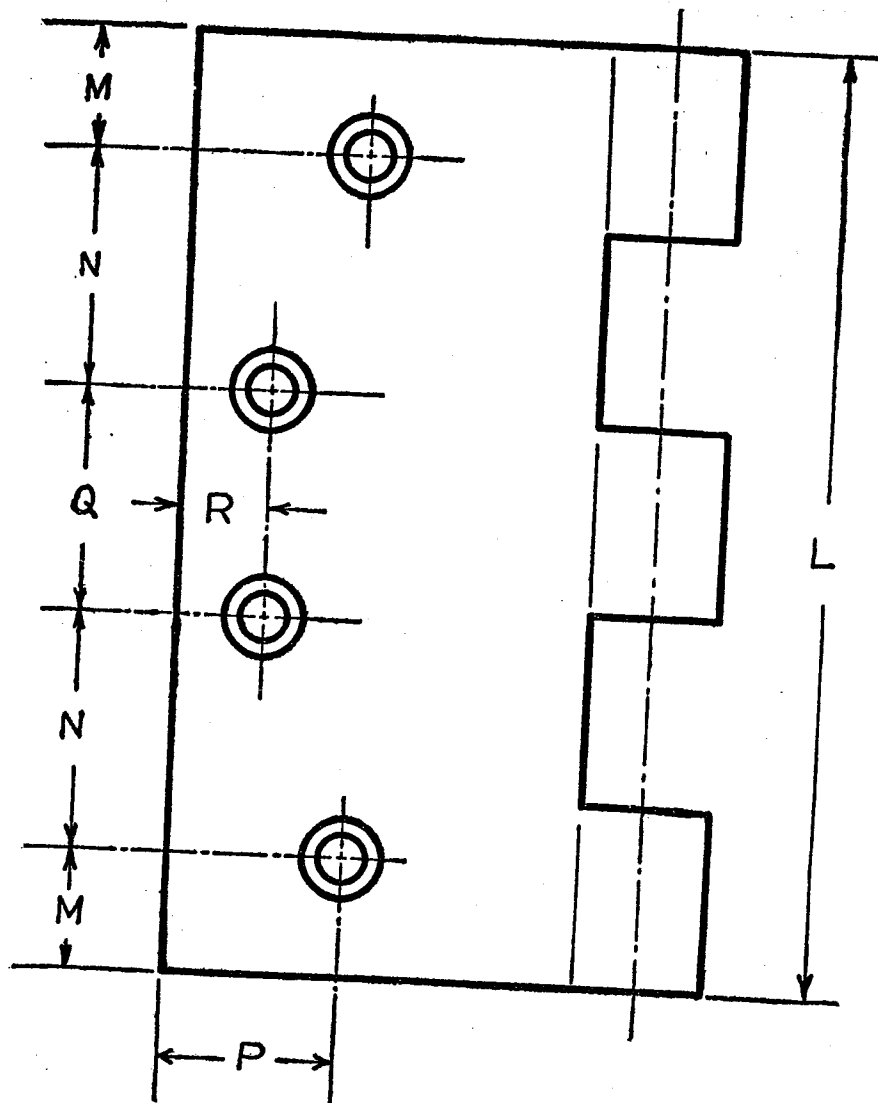


TABLE 2.—4 and 4½ inch full-mortise template butt hinges

Template identification symbol	Dimensions (inches)							Material of butt hinge	Machine screws			
	L	M	N	P	Q	R	Nominal thickness		Type	Length	Diameter	Threads
A140M...	4	0.512	1.004	0.750	0.968	0.375	0.130	Wrought bronze or steel	F. H.	1½	12	24
A140M...	4	.512	1.004	.750	.968	.375	.172	Cast bronze or iron	F. H.	1½	12	24
B140M...	4	.512	1.004	.750	.968	.375	.170	Wrought bronze or steel	F. H.	1½	12	24
B140M...	4	.512	1.004	.750	.968	.375	.250	Cast bronze or iron	F. H.	1½	12	24
A145M...	4½	.508	1.125	1.000	1.234	.375	.134	Wrought bronze or steel	F. H.	1½	12	24
A145M...	4½	.508	1.125	1.000	1.234	.375	.187	Cast bronze or iron	F. H.	1½	12	24
B145M...	4½	.508	1.125	1.000	1.234	.375	.180	Wrought bronze or steel	F. H.	1½	12	24
B145M...	4½	.508	1.125	1.000	1.234	.375	.250	Cast bronze or iron	F. H.	1½	12	24
A245M...	4½	.500	1.166	.593	1.166	.406	.134	Wrought bronze or steel	F. H.	1½	12	24
A245M...	4½	.500	1.166	.593	1.166	.406	.187	Cast bronze or iron	F. H.	1½	12	24
B245M...	4½	.500	1.166	.593	1.166	.406	.180	Wrought bronze or steel	F. H.	1½	12	24
B245M...	4½	.500	1.166	.593	1.166	.406	.250	Cast bronze or iron	F. H.	1½	12	24

FIGURE 4.—5 and 6 inch full-mortise template butt hinges

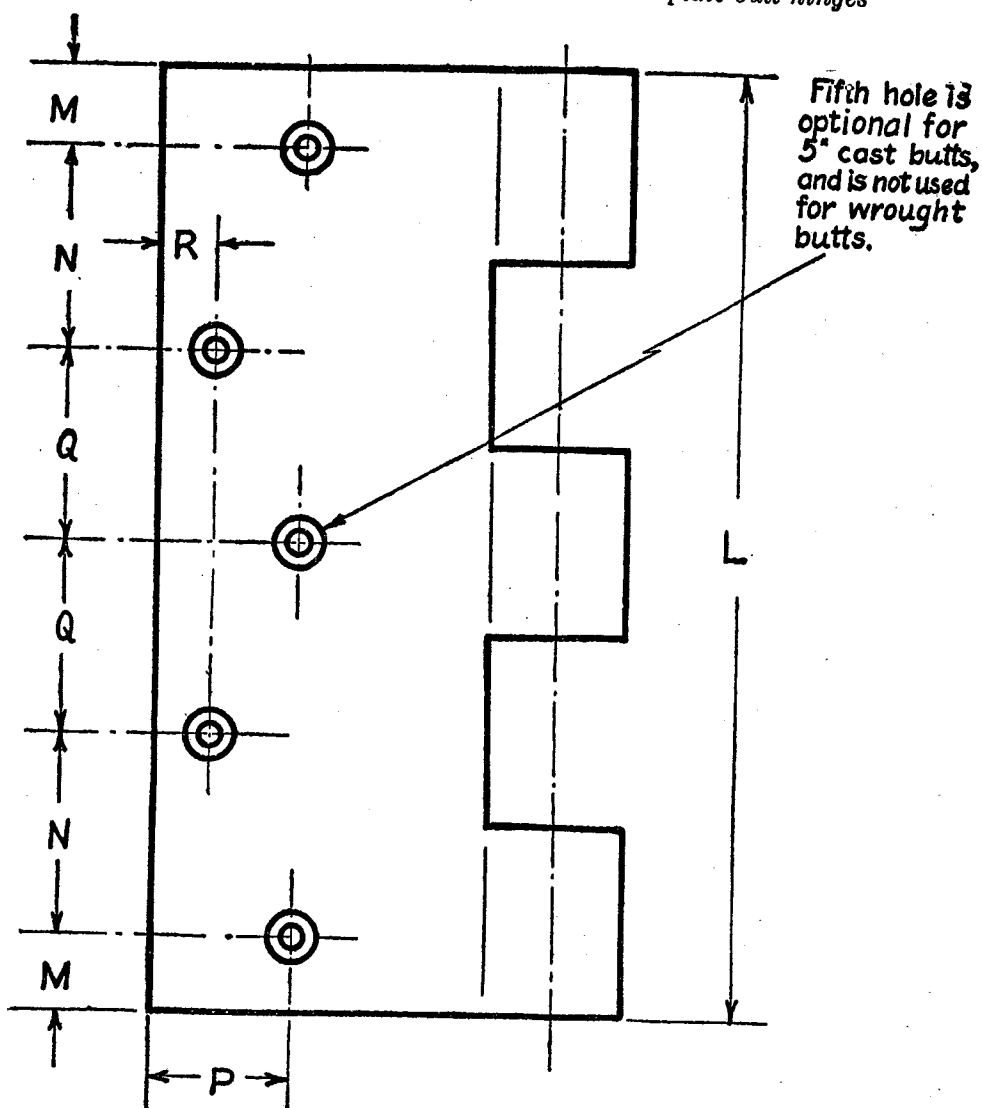
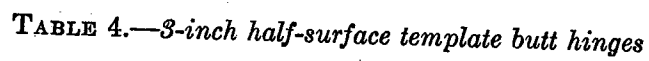


TABLE 3.—5 and 6 inch full-mortise template butt hinges

Tem- plate identi- fication symbol	Dimensions (inches)							Material of butt hinge	Machine screws			
	L	M	N	P	Q	R	Nominal thickness		Type	Length	Diameter	Threads
A150M..	5	0.508	1.250	1.000	0.742	0.375	0.146	Wrought bronze or steel.	F. H.	1 1/2	12	24
A150M..	5	.508	1.250	1.000	.742	.375	.203	Cast bronze or iron.	F. H.	1 1/2	12	24
B150M..	5	.508	1.250	1.000	.742	.375	.190	Wrought bronze or steel.	F. H.	1 1/2	12	24
B150M..	5	.508	1.250	1.000	.742	.375	.281	Cast bronze or iron.	F. H.	1 1/2	12	24
A250M..	5	.500	1.250	.687	.750	.312	.146	Wrought bronze or steel.	F. H.	1 1/2	12	24
A250M..	5	.500	1.250	.687	.750	.312	.203	Cast bronze or iron.	F. H.	1 1/2	12	24
B250M..	5	.500	1.250	.687	.750	.312	.190	Wrought bronze or steel.	F. H.	1 1/2	12	24
B250M..	5	.500	1.250	.687	.750	.312	.281	Cast bronze or iron.	F. H.	1 1/2	12	24
B160M..	6	.500	1.281	.937	1.219	.375	.203	Wrought bronze or steel.	F. H.	1 1/2	1/4	20
B160M..	6	.500	1.281	.937	1.219	.375	.312	Cast bronze or iron.	F. H.	1 1/2	1/4	20

FIGURE 5.—3-inch half-surface template butt hinges



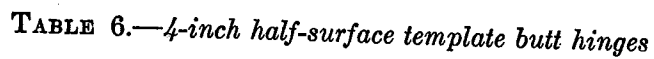
Template identification symbol	Nominal thickness (inch)	Material of butt hinge	Machine screws	
			F. H.—Jamb leaf	O. H. with grommet nuts—Door leaf
A130H.....	0.092	Wrought steel and bronze...	½ inch by 10-24.....	1½ inches by 10-24.

Technical drawing of a door and jamb assembly, showing dimensions and labels. The drawing is a plan view of a door with a central vertical handle and a horizontal handle at the bottom. The door is labeled "DOOR LEAF" and the jamb is labeled "JAMB LEAF". The dimensions are as follows:

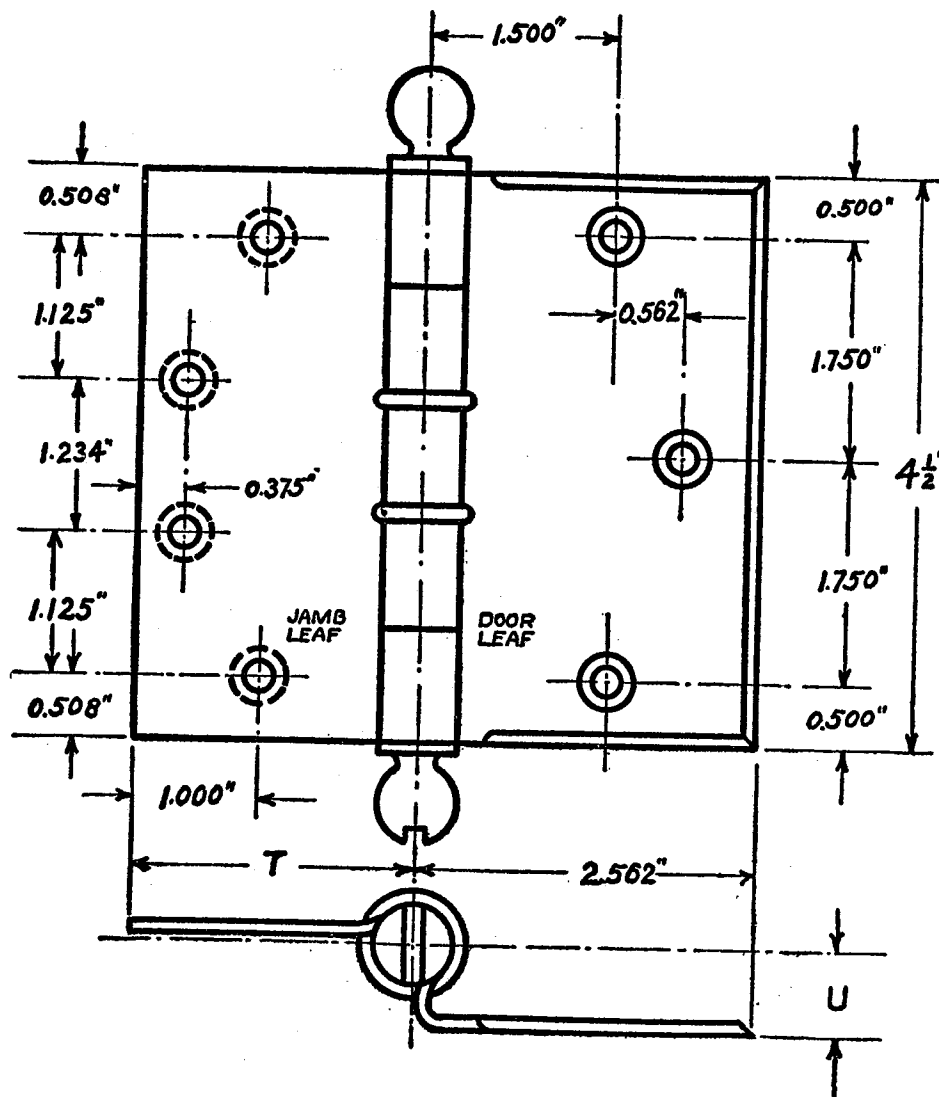
- Overall width: $1.167''$
- Overall height: $3\frac{1}{2}''$
- Top edge dimensions (from left to right): $0.355''$, $1.395''$, $0.375''$
- Right edge dimensions (from top to bottom): $1.375''$, $1.375''$, $0.375''$
- Bottom edge dimensions (from left to right): $0.360''$, $1\frac{3}{4}''$, $2\frac{5}{8}''$
- Internal dimensions and offsets:
 - Top left offset: $0.355''$
 - Top right offset: $0.500''$
 - Left side offset: $0.687''$
 - Right side offset: $\frac{7}{16}''$
 - Bottom left offset: $0.355''$
 - Bottom right offset: $\frac{11}{16}''$

Template identification symbol	Nominal thickness (inch)	Material of butt hinge	Machine screws	
			F. H.—Jamb leaf	O. H. with grommet nuts—Door leaf
A135H.....	0.123	Wrought steel and bronze...	½ inch by 10-24.....	1¾ inches by 10-24.

FIGURE 7.—4-inch half-surface template butt hinges



Template identification symbol	Nominal thickness (inch)	Material of butt hinge	Machine screws	
			F. H.—Jamb leaf	O. H. with grommet nuts—Door leaf
A140H-----	0.130	Wrought steel and bronze---	½ inch by 12-24-----	2 inches by 1¼-20.

FIGURE 8.— $4\frac{1}{2}$ -inch half-surface template butt hingesTABLE 7.— $4\frac{1}{2}$ -inch half-surface template butt hinges

Template identification symbol	Dimensions (inches)			Material of butt hinge	Machine screws	
	T	U	Nominal thickness		F. H.—Jamb leaf	O. H. with grommet nuts—Door leaf
A145H.....	$2\frac{1}{4}$	$\frac{3}{4}$	0.134	Wrought steel and	$\frac{1}{2}$ inch by 12-24.....	2 inches by $\frac{1}{4}$ -20.
B145H.....	$2\frac{1}{2}$	1	.180do.....do.....	$2\frac{1}{4}$ inches by $\frac{1}{4}$ -20.

FIGURE 9.—5-inch half-surface template butt hinges

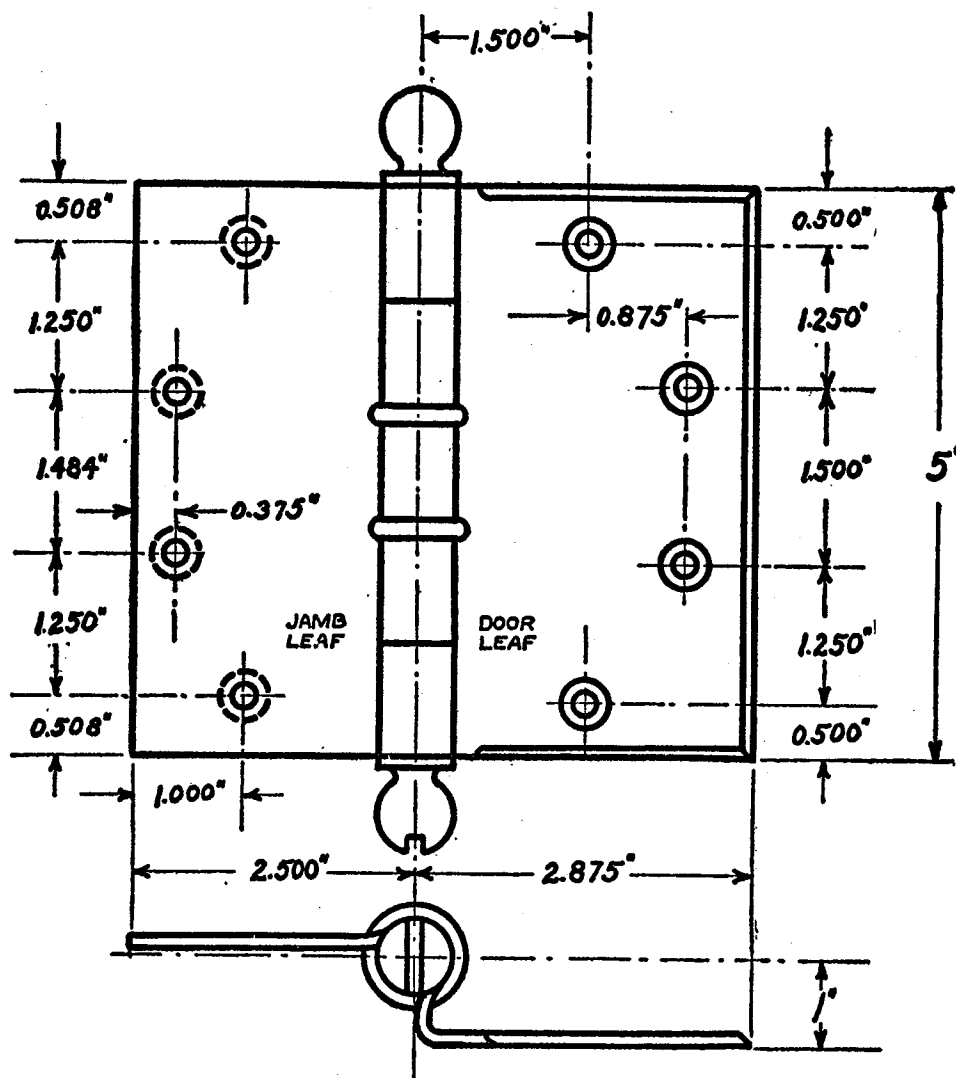


TABLE 8.—5-inch half-surface template butt hinges

Template identification symbol	Nominal thickness (inch)	Material of butt hinge	Machine screws	
			F. H.—Jamb leaf	O. H. with grommet nuts—Door leaf
A150H.....	0.146	Wrought steel and bronze.....	½ inch by 12-24.....	2 inches by ¼-20.
B150H.....	.190	do.....	do.....	2¼ inches by ¼-20.

FIGURE 10.—6-inch half-surface template butt hinges

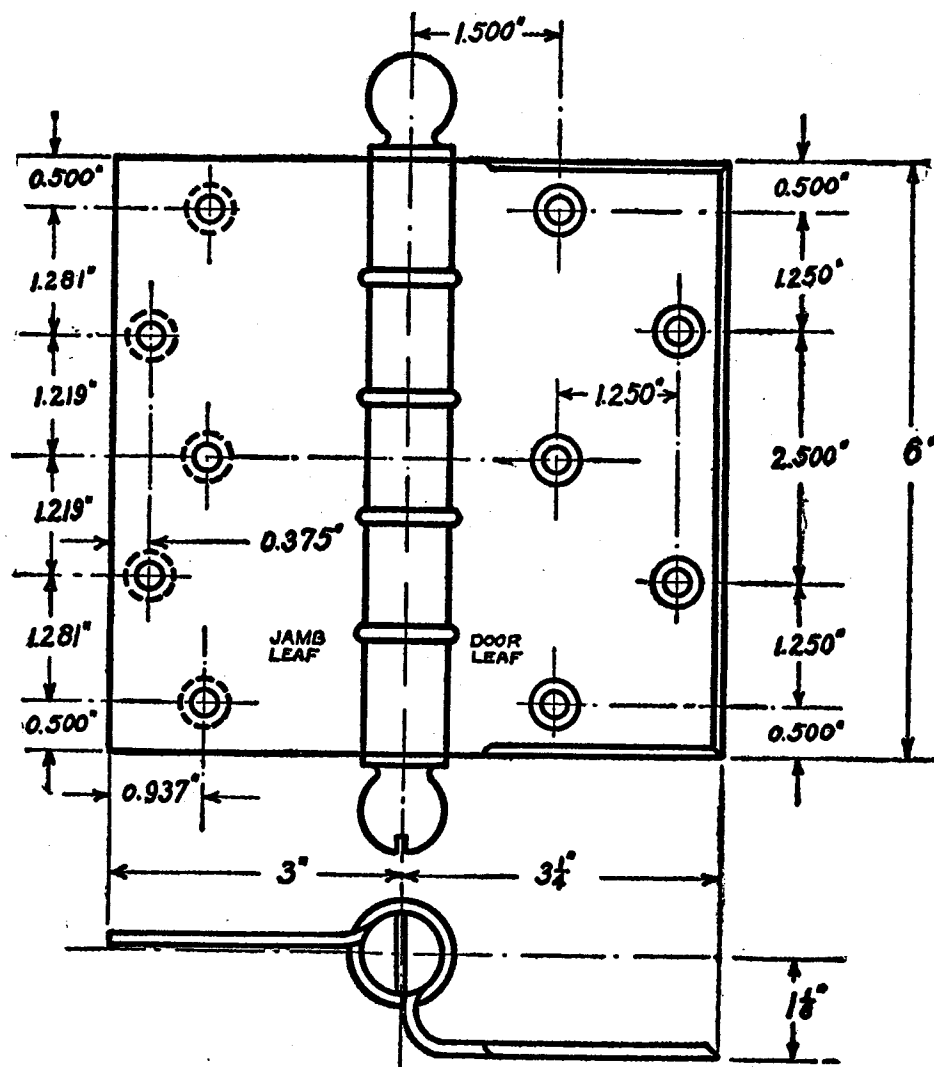
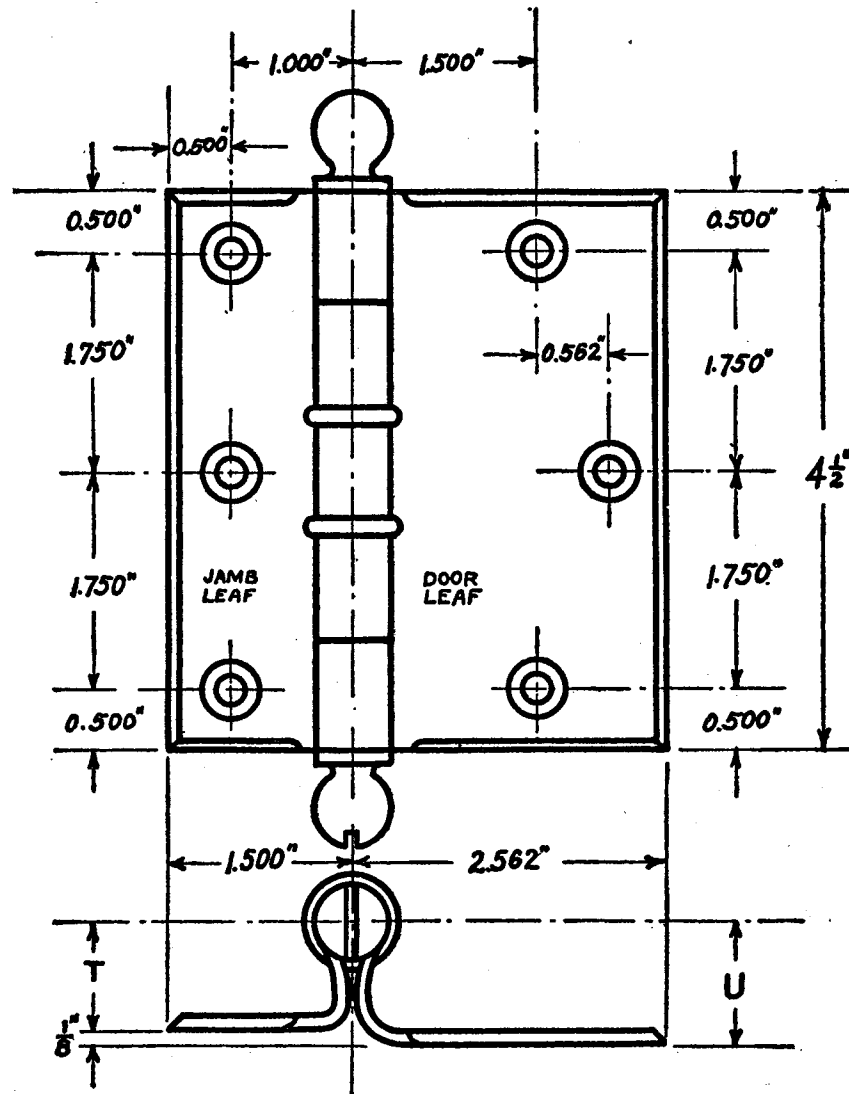


TABLE 9.—6-inch half-surface template butt hinges

Template identification symbol	Nominal thickness (inch)	Material of butt hinge	Machine screws	
			F. H.—Jamb leaf	O. H. with grommet nuts—Door leaf
B160H.....	0.203	Wrought steel and bronze....	1/2 inch by 1/4-20.....	2 3/4 inches by 1/4-20.

FIGURE 11.— $4\frac{1}{2}$ -inch full-surface template hingesTABLE 10.— $4\frac{1}{2}$ -inch full surface template hinges

Template identification symbol	Dimensions (inches)			Material of hinge	Machine screws	
	T	U	Nominal thickness		O. H.—Jamb leaf	O. H. with grommet nuts—Door leaf
A145S.....	$1\frac{3}{16}$	$1\frac{5}{16}$	0.134	Wrought steel and bronze.	$\frac{1}{2}$ inch by 12-24.....	2 inches by $\frac{1}{4}$ -20.
B145S.....	$\frac{7}{8}$	1	.180	do.....	do.....	$2\frac{1}{4}$ inches by $\frac{1}{4}$ -20.

FIGURE 12.—5-inch full-surface template hinges

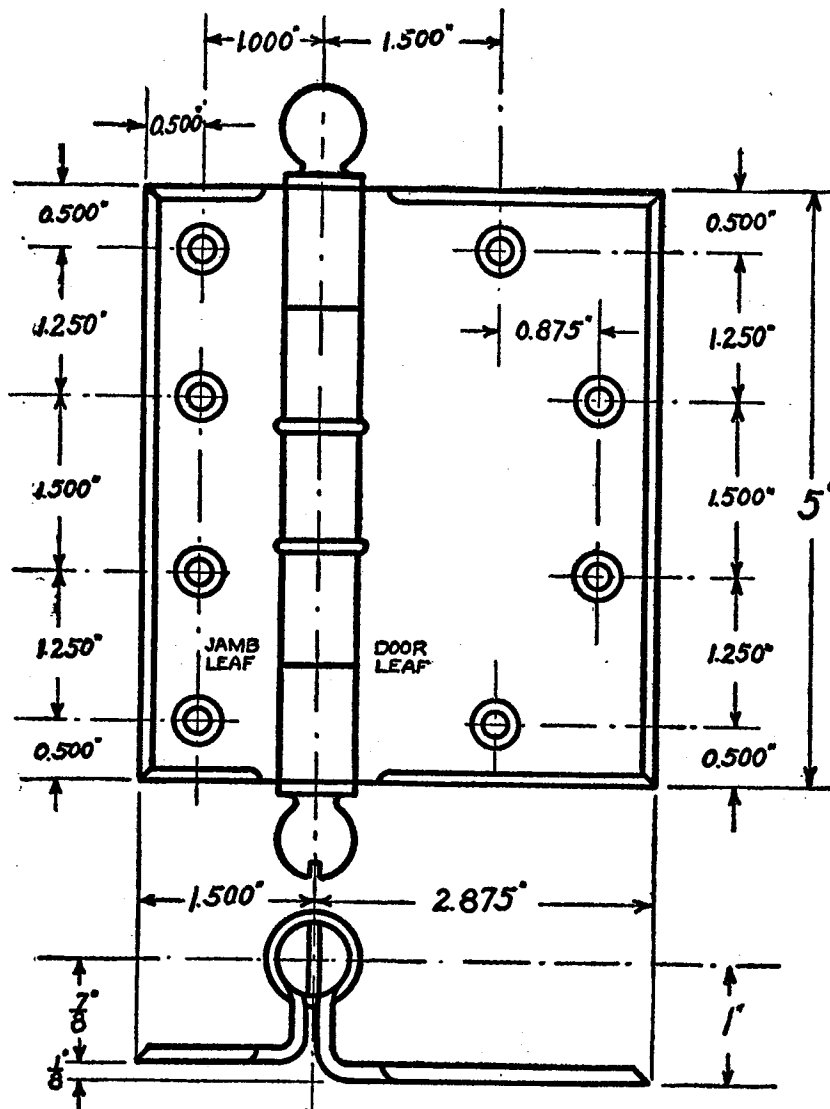


TABLE 11.—5-inch full-surface template hinges

Template identification symbol	Nominal thickness (inch)	Material of hinge	Machine screws	
			O. H.—Jamb leaf	O. H. with grommet nuts—Door leaf
A150S.....	0.146	Wrought steel and bronze...	1/2 inch by 12-24.....	2 inches by 1/4-20.
B150S.....	.190	do.....	do.....	2 1/4 inches by 1/4-20.

FIGURE 13.—6-inch full-surface template hinges

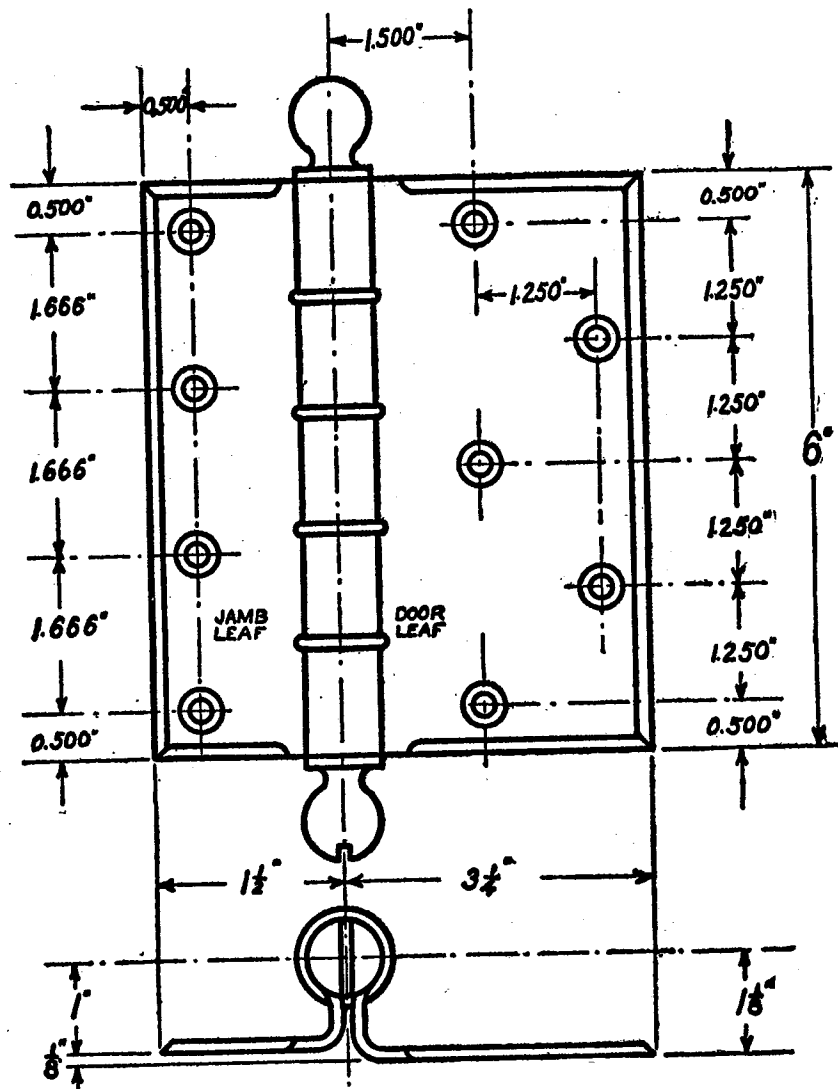
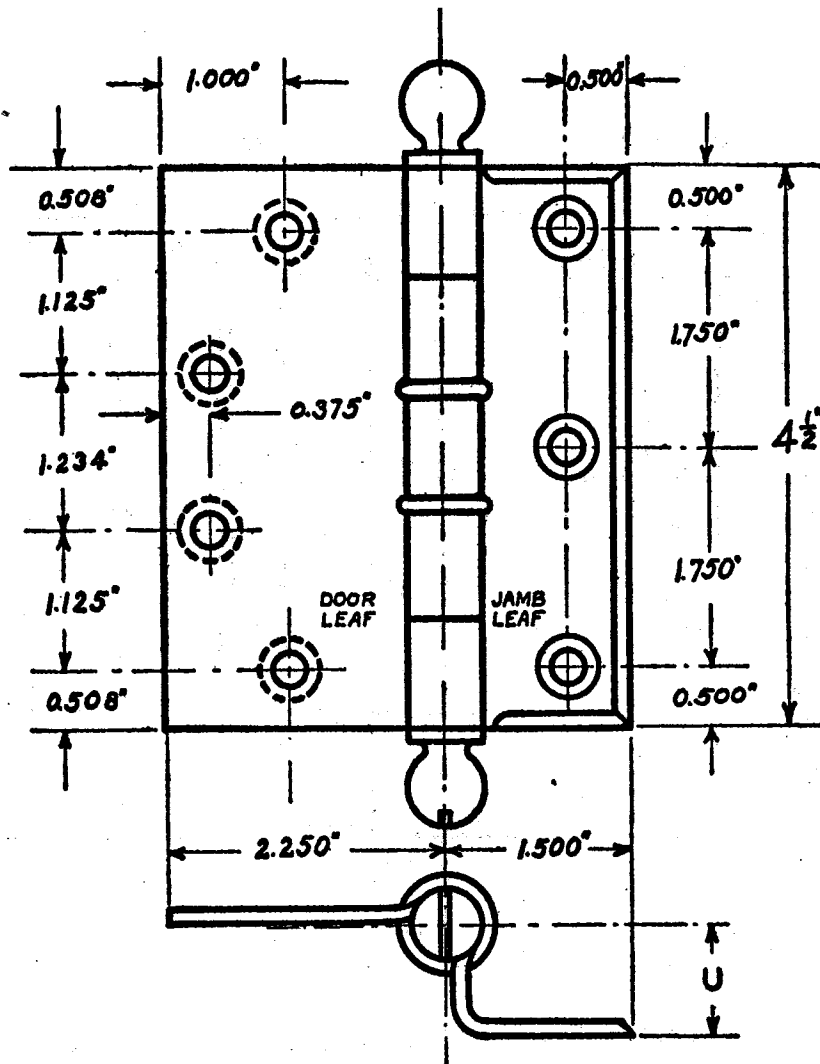


TABLE 12.—6-inch full-surface template hinges

Template identification symbol	Nominal thickness (inch)	Material of hinge	Machine screws	
			O. H.—Jamb leaf	O. H. with grommet nuts—Door leaf
B160S-----	0.203	Wrought steel and bronze...	½ inch by ¼-20-----	2¾ inches by ¼-20.

FIGURE 14.— $4\frac{1}{2}$ -inch half-mortise template butt hingesTABLE 13.— $4\frac{1}{2}$ -inch half-mortise template butt hinges

Template identification symbol	Nominal thickness (inch)	U (inch)	Material of butt hinge	Machine screws	
				O. H.—Jamb leaf	F. H.—Door leaf
A145HM.....	0.134	$1\frac{3}{16}$	Wrought steel and bronze	$\frac{1}{2}$ inch by 12-24.....	$\frac{1}{2}$ inch by 12-24.
B145HM.....	.180	$\frac{7}{8}$	do.....	do.....	Do.

FIGURE 15.—5-inch half-mortise template butt hinges

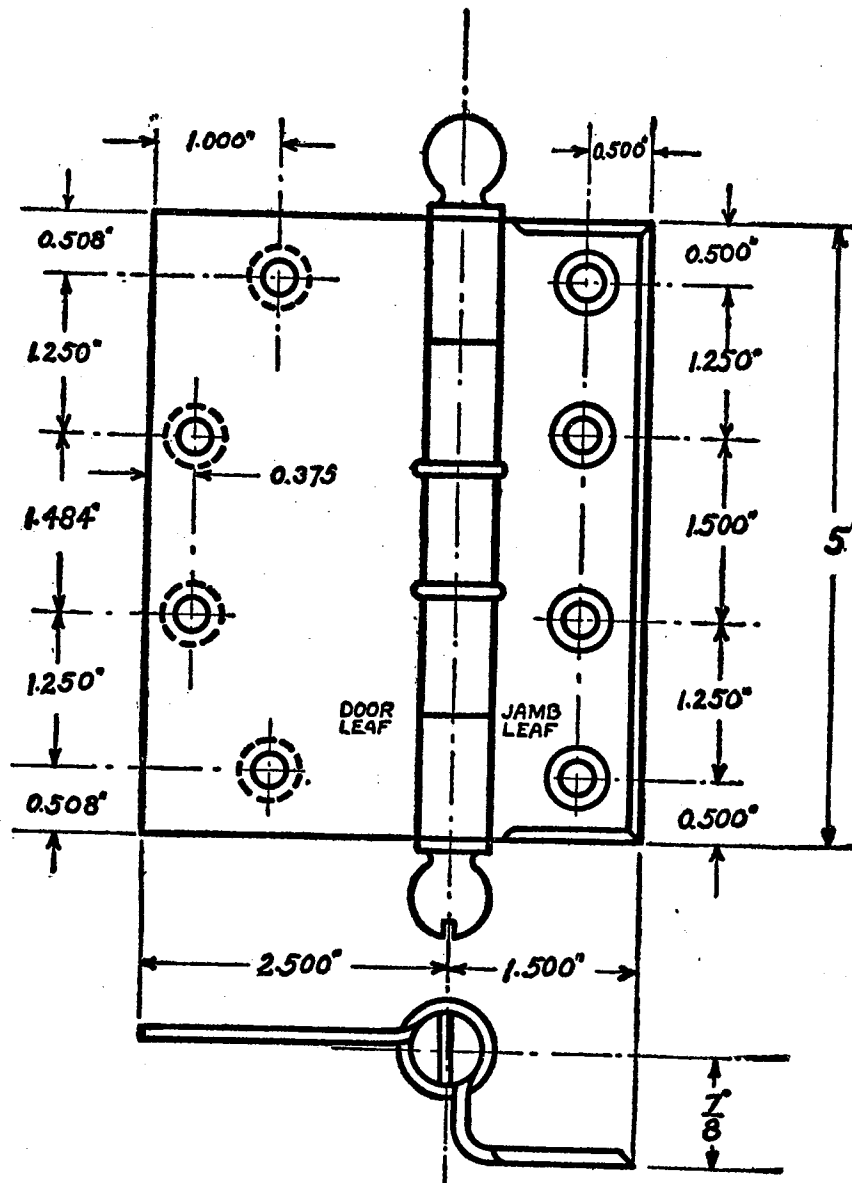


TABLE 14.—5-inch half-mortise template butt hinges

Template identification symbol	Nominal thickness (inch)	Material of butt hinge	Machine screws	
			O. H.—Jamb leaf	F. H.—Door leaf
A150HM.....	0.146	Wrought steel and bronze.....	½ inch by 12-24.....	½ inch by 12-24.
B150HM.....	.190	do.....	do.....	Do.

FIGURE 16.—6-inch half-mortise template butt hinges

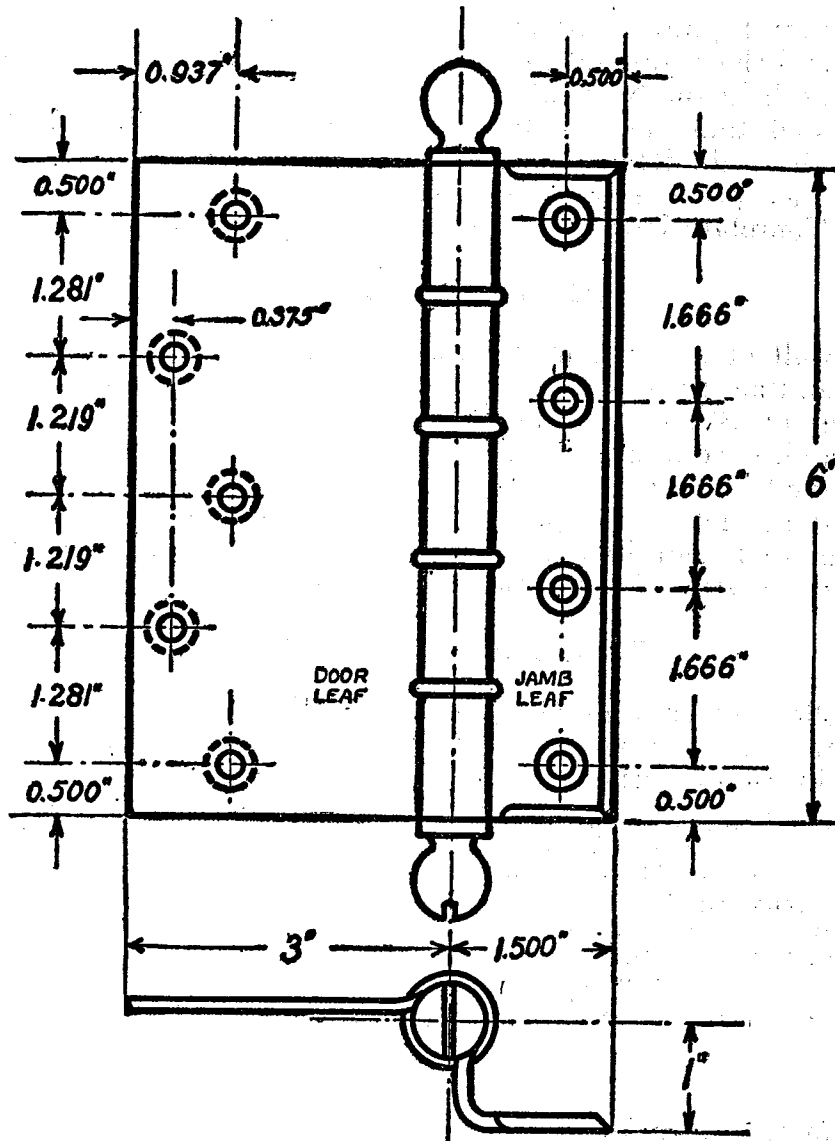


TABLE 15.—6-inch half-mortise template butt hinges

Template identification symbol	Nominal thickness (inch)	Material of butt hinge	Machine screws	
			O. H.—Jamb leaf	F. H.—Door leaf
B160HM.....	0.203	Wrought steel and bronze...	½ inch by ¼-20.....	½ inch by ¼-20.

HISTORY OF THE PROJECT

After several joint conferences of the builders' hardware manufacturers and the manufacturers of hollow metal doors, a general conference was held on November 15, 1928, in New York City which recommended that the standard as adjusted for builders' template hardware be submitted to the industry for written acceptance. Sufficient acceptances were received and the standard issued as Builders' Template Hardware, Commercial Standard CS9-29.

FIRST REVISION

As a result of usage, minor changes were adopted by the Hollow Metal Manufacturers Association and the Manufacturers' Advisory Committee on Standardization of Builders' Hardware and indorsed by the standing committee. The proposed revision was circulated to the industry for written acceptance on July 20, 1932. A section covering template letter-box plates failed to receive sufficient support and therefore is not included. In general, the changes constitute minor refinements which have developed as a result of experience.

STANDING COMMITTEE

The following individuals constitute the standing committee which is to consider revisions to keep the standard abreast of current practices in the industry:

WILLIAM C. HABBERSETT (chairman), Russell & Erwin Manufacturing Co.
JEAN F. HART, Stanley Works.
C. F. BURT, Hollow Metal Manufacturers Association.
J. K. MURPHY, Dahlstrom Metallic Door Co.
F. LEO SMITH, American Institute of Architects.
H. E. FOREMAN, Associated General Contractors of America (Inc.).
ROBERT S. MARTIN, Southern Hardware Jobbers Association.
L. B. ERMELING, National Association of Building Owners and Managers.

EFFECTIVE DATE

The effective date for new production was set at January 1, 1933.

ACCEPTANCE OF COMMERCIAL STANDARD

This sheet properly filled in, signed, and returned will provide for the recording of your organization as an acceptor of this commercial standard.

Date _____

DIVISION OF TRADE STANDARDS,
BUREAU OF STANDARDS,
Washington, D. C.

GENTLEMEN: Having considered the statements on the reverse side of this sheet, we accept the Commercial Standard CS9-33 as our standard of practice in the {production¹
distribution¹} of builders' template hardware.
use¹

We will assist in securing its general recognition and use and will cooperate with the standing committee to effect revisions of the standard when necessary.

Signature _____
(Above signature should be in ink)

(Kindly typewrite or print the following lines)

Title _____

Company _____

Street address _____

City and State _____

¹ Please designate which group you represent by drawing lines through the other two. In the case of related interests, trade papers, colleges, etc., desiring to record their general approval, the words "in principle" should be added after the signature.

TO THE ACCEPTOR

The following points are given in answer to the usual questions arising in connection with the acceptance form:

1. Commercial standards are commodity specifications voluntarily established by mutual consent of the industry. They present a common basis of understanding between the producer, distributor, and consumer and should not be confused with any plan of governmental regulation or control. The Department of Commerce has no regulatory power in the enforcement of their provisions, but since they represent the will of the industry as a whole, their provisions through usage soon become established as trade customs.

2. *The acceptor's responsibility.*—The purpose of commercial standards is to establish for specific commodities, nationally recognized grades or consumer criteria and the benefits therefrom will be measurable in direct proportion to their general recognition and actual use. Instances will occur when it may be necessary to deviate from the standard and the signing of an acceptance does not preclude such departures; however, such signature indicates an intention to follow the commercial standard where practicable, in the production, distribution, or consumption of the article in question.

3. *The department's responsibility.*—The function performed by the Department of Commerce in the establishment of a commercial standard is fourfold; first, to act as an unbiased coordinator to bring all branches of the industry together for the mutually satisfactory adjustment of trade standards; second, to supply such assistance and advice as past experience with similar programs may suggest; third, to canvass and record the extent of acceptance and adherence to the standard; and fourth, to add all possible prestige to the enterprise by publication and promulgation when accepted by the industry.

When the standard has been indorsed by companies representing a satisfactory majority of production, the success of the project is announced. If, however, in the opinion of the standing committee of the industry or the Department of Commerce the support of any standard is inadequate, the right is reserved to withhold promulgation and publication.

ACCEPTORS

ASSOCIATIONS

American Institute of Architects,
The, Structural Service Department,
Washington, D. C.
Architects League Northern New Jer-
sey, Cliffside, N. J.
National Association of Building Own-
ers and Managers, Chicago, Ill.
National Retail Hardware Association,
Indianapolis, Ind.

FIRMS

Allison & Allison, Los Angeles, Calif.
Altfillisch, Charles, Decorah, Iowa.
Art Metal Construction Co., James-
town, N. Y.
Auler, Jensen & Brown, Oshkosh, Wis.
Austin, W. Horace, architect, Santa
Ana, Calif.
Baumer, Herbert, Columbus, Ohio.
Benedict, E. E., Waterbury, Conn.
Best, Thomas D., & Horace W.
Wachter, Toledo, Ohio.
Best Universal Lock Co., Seattle, Wash.
Brainerd, Harry B., New York, N. Y.
Brust, Peter, Milwaukee, Wis.
Buckingham, Clarence W., Oklahoma
City, Okla.
Buechner & Orth, St. Paul, Minn.
Builders Supply Co., San Antonio,
Tex.
Candela, Rosario, New York, N. Y.
Cannon & Fetzer, architects, Salt Lake
City, Utah.
Carroll, John J., Ventnor, N. J.
Champion Hardware Co., The, Geneva,
Ohio.
Chantrell Hardware & Tool Co., Read-
ing, Pa.
Chapin, Rollin C., Minneapolis, Minn.
Child, Harry C., Sayre, Pa.
Clinton Lock Co., Clinton, Iowa.
Coleman Hardware Co. (Inc.), Morris,
Ill.
Conrad & Cummings, Binghamton,
N. Y.
Cooper, David M., Ambridge, Pa.
Corbin Division, P. & F., New Britain,
Conn.
Cowles & Colean, Chicago, Ill.
Crane Co., The Arthur D., Sparta, N. J.
Cunningham, George B., Wheeling,
W. Va.
Dahlstrom Metallic Door Co., James-
town, N. Y.
DeJarnette, Charles W., Des Moines,
Iowa.

Detroit Hardware Manufacturing Co.,
Detroit, Mich.
Devlin, Edward A., architect, Trenton,
N. J.
Dietel & Wade, Buffalo, N. Y.
Dodge & Morrison, New York, N. Y.
(in principle).
Emery, Henry G., Nyack, N. Y.
Evers, Albert J., San Francisco, Calif.
Field, Wooster Bard, Columbus, Ohio
(in principle).
Fleming, Office of Bryant, Ithaca, N.
Y. (in principle).
Forderer Cornice Works, San Francisco,
Calif.
Frantz Manufacturing Co., Sterling,
Ill.
Gardner Hardware Co., Minneapolis,
Minn.
Gordon & Kaelber & Charles William
Eldridge, Oswego, N. Y.
Granger & Bollenbacher, Chicago, Ill.
Gray, John, Pueblo, Colo.
Griffin Manufacturing Co., Erie, Pa.
Hager & Sons Hinge Manufacturing
Co., C., St. Louis, Mo.
Hahn, Stanley W., Chicago, Ill.
Hake, Harry, Cincinnati, Ohio.
Hall, Stromquist & Rice, Chicago, Ill.
Harper & West, Boston, Mass.
Helfensteller, Hirsch & Watson, St.
Louis, Mo.
Herbst & Kuenzli, Milwaukee, Wis.
Hoke, Karl B., Toledo, Ohio.
Huey & Philp Hardware Co., Dallas,
Tex.
Hunt, William E., Torrington, Conn.
Jacobs, Office of Harry Allan, New
York, N. Y.
Janney, John Craig, Philadelphia, Pa.
Johnstone & Eggert, North Tona-
wanda, N. Y. (in principle).
Keich & Obrien, Warren, Ohio.
Kennedy, Ernest, Minneapolis, Minn.
Kimberlin, Clarence W., Owensboro,
Ky.
Knighton & Howell, Portland, Oreg.
Kruckemeyer & Strong, Cincinnati,
Ohio.
Lawrence Bros., Sterling, Ill.
Lockwood Hardware Manufacturing
Co., South Norwalk, Conn.
Mack, Herman L., Trenton, N. J.
Macqueen, James M., Pittsburgh, Pa.
Mason & Co., George D., Detroit,
Mich. (in principle).
Mauran, Russell & Crowell, St. Louis,
Mo.

- McCornack, Walter R., Cleveland, Ohio.
 McKinney Manufacturing Co., Pittsburgh, Pa.
 Metal Door & Trim Co., LaPorte, Ind.
 Meyers, Henry H., San Francisco, Calif.
 Miller, J. R. & T. L. Pflueger, San Francisco, Calif.
 Miller & Yeager, Terre Haute, Ind.
 Molther, F. R., Panama, R. P., Ancon, Canal Zone.
 Montgomery & Patteson, Charleston, W. Va.
 Mundie & Jensen, Chicago, Ill.
 National Manufacturing Co., Sterling, Ill.
 Payson Manufacturing Co., The, Chicago, Ill.
 Peaslee, Horace W., Washington, D. C.
 Pehrson, G. A., Spokane, Wash.
 Penn Hardware Co., Reading, Pa.
 Plachek, James W., Berkeley, Calif.
 Pond & Pond & Edgar Martin, Chicago, Ill.
 Pope, John Russell, New York, N. Y.
 Proudfoot, Rawson, Souers & Thomas, Des Moines, Iowa.
 Reading Hardware Corporation, Reading, Pa.
 Reed & Corlett, Oakland, Calif.
 Reeves, Robert R., Columbus, Ohio.
 Reid, William H., Jackson, Mich.
 Reliance Bronze & Steel Corporation, Brooklyn, N. Y.
 Richards-Wilcox Manufacturing Co., Aurora, Ill.
 Richmond Fireproof Door Co., Richmond, Ind.
 Rudolph & West Co., Washington, D. C.
 Russell & Erwin Manufacturing Co., The American Hardware Corporation Successor, New Britain, Conn.
 Russell, Lumm & Lance, Tacoma, Wash.
 Sargent & Co., New Haven, Conn.
 Sarvis, L. J., Battle Creek, Mich.
 Schlage Lock Co., San Francisco, Calif.
 Schoeppe, Edward, Philadelphia, Pa.
 Schulzke, William H., Moline, Ill.
 Stanley Works, The, New Britain, Conn.
 Stoetzel, R. E., Chicago, Ill.
 Streeter & Co., D. D., Brooklyn, N. Y.
 Strobel, John F., Rochester, N. Y.
 Tomlinson, Webster, Joliet, Ill.
 Truscon Steel Co., Youngstown, Ohio.
 Trussbilt Steel Doors (Inc.), St. Paul, Minn.
 United Metal Products Co., The, Canton, Ohio.
 Van Pelt, John V., New York, N. Y. (in principle).
 Vickery, John W., St. Petersburg, Fla.
 Virginia Polytechnic Institute, Blacksburg, Va.
 Walker & Gillette, New York, N. Y.
 Willatsen, Andrew, Seattle, Wash.
 Willson, Fred F., Bozeman, Mont. (in principle).
 Woltersdorf, Arthur, Chicago, Ill.
 Wood Supply Co., The J. R., Cincinnati, Ohio.
 Yale & Towne Manufacturing Co., The, Stamford, Conn.
 Zoller & Muller, New York, N. Y.
 Zork Hardware Co., El Paso, Tex.

GOVERNMENT

- District of Columbia, Government of the, purchasing office, Washington, D. C.
 U. S. Department of the Interior, Washington, D. C.
 U. S. Treasury Department, Washington, D. C.
 Veterans' Administration, Washington, D. C.
 War Department, Washington, D. C.

COMMERCIAL STANDARDS

CS No.	Item	CS No.	Item
0-30.	The commercial standard service and its value to business.	23-30.	Feldspar.
1-32.	Clinical thermometers (second edition).	24-30.	Standard screw threads.
2-30.	Mopsticks.	25-30.	Special screw threads.
3-28.	Stoddard solvent.	26-30.	Aromatic red cedar closet lining.
4-29.	Staple porcelain (all-clay) plumbing fixtures.	27-30.	Plate glass mirrors.
5-29.	Steel pipe nipples.	28-32.	Cotton fabric tents, tarpaulins, and covers.
6-31.	Wrought iron pipe nipples (second edition).	29-31.	Staple seats for water-closet bowls.
7-29.	Standard weight malleable iron or steel screwed unions.	30-31.	Colors for sanitary ware.
8-30.	Plain and thread plug and ring gage blanks.	31-31.	Red cedar shingles.
9-33.	Builders' template hardware (second edition).	32-31.	Cotton cloth for rubber and pyroxylin coating.
10-29.	Brass pipe nipples.	33-32.	Knit underwear (exclusive of rayon).
11-29.	Regain of mercerized cotton yarns.	34-31.	Bag, case, and strap leather.
12-29.	Domestic and industrial fuel oils.	35-31.	Plywood (hardwood and eastern red cedar).
13-30.	Dress patterns.	36-31.	Fourdrinier wire cloth.
14-31.	Boys' blouses, button-on waists, shirts, and junior shirts.	37-31.	Steel bone plates and screws.
15-29.	Men's pajamas.	38-32.	Hospital rubber sheeting.
16-29.	Wall paper.	39-32.	Wool and part wool blankets.
17-32.	Diamond core drill fittings (second edition).	40-32.	Surgeons' rubber gloves.
18-29.	Hickory golf shafts.	41-32.	Surgeons' latex gloves.
19-32.	Foundry patterns of wood (second edition).	42-32.	Fiber insulating board.
20-30.	Staple vitreous china plumbing fixtures.	43-32.	Grading of sulphonated (sulphated) oils, saponifiable types.
21-30.	Interchangeable ground glass joints.	44-32.	Apple wraps.
22-30.	Builders' hardware (nontemplate).	45-32.	Douglas fir plywood.

NOTE.—Those interested in commercial standards with a view toward accepting them as a basis of everyday practice in their industry, may secure copies of the above standards, while the supply lasts, by addressing the Division of Trade Standards, Bureau of Standards, Washington, D. C.